



# GETTLER-RYAN INC.

## TRANSMITTAL

October 5, 2000

G-R #180065

*MW-6 - very high conc - F.P.*

TO: Mr. David B. De Witt  
Tosco Marketing Company  
2000 Crow Canyon Place, Suite 400  
San Ramon, California

CC: Mr. Doug Lee  
Gettler-Ryan Inc.  
6747 Sierra Court, Suite J  
Dublin, California 94568

FROM: Deanna L. Harding  
Project Coordinator  
Gettler-Ryan Inc.  
6747 Sierra Court, Suite J  
Dublin, California 94568

RE: Tosco (Unocal) SS#5043  
449 Hegenberger Road  
Oakland, California

# 521

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	September 18, 2000	Groundwater Monitoring and Sampling Report Third Quarter 2000 - Events of May 26, June 17 and July 14, 2000

### COMMENTS:

This report is being sent to you for your review/comment, prior to being distributed on your behalf. If no comments are received by **October 18, 2000**, this report will be distributed to the following:

Enclosure

cc: Mr. Barney M. Chan, Alameda County Health Care Services, 1131 Harbor Bay Parkway, Suite 250, Alameda, California 94502  
Beretta Investment Group, 39560 Stevenson Place, Suite 118, Fremont CA 94539

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ENVIRONMENTAL PROTECTION



# GETTLER-RYAN INC.

September 18, 2000  
G-R Job #180065

Mr. David B. De Witt  
Tosco Marketing Company  
2000 Crow Canyon Place, Suite 400  
San Ramon, California 94583

RE: Third Quarter 2000 Groundwater Monitoring & Sampling Report  
Tosco (Unocal) Service Station #5043  
449 Hegenberger Road  
Oakland, California

Dear Mr. De Witt:

This report documents the monthly site visits and the quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On May 26, and June 17, 2000, field personnel monitored one well (MW-6) and on July 14, 2000, field personnel monitored and sampled six wells (MW-3 and MW-6 through MW-10) at the above referenced site.

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were present in one well (MW-6). Static water level data and groundwater elevations are summarized in Table 1. Product Thickness/Removal Data is summarized in Table 3. A Potentiometric Map is included as Figure 1.

Groundwater samples were collected from the monitoring wells as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheets are also attached. The samples were analyzed by Sequoia Analytical. Analytical results are summarized in Tables 1 and 2. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,

*Deanna L. Harding*

Deanna L. Harding  
Project Coordinator

*Barbara Sieminski*

Barbara Sieminski  
Project Geologist, R.G. No. 6676

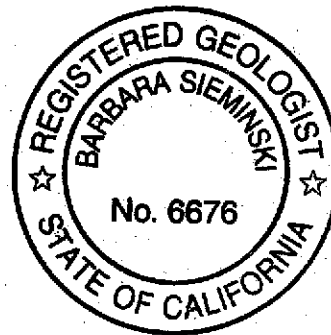
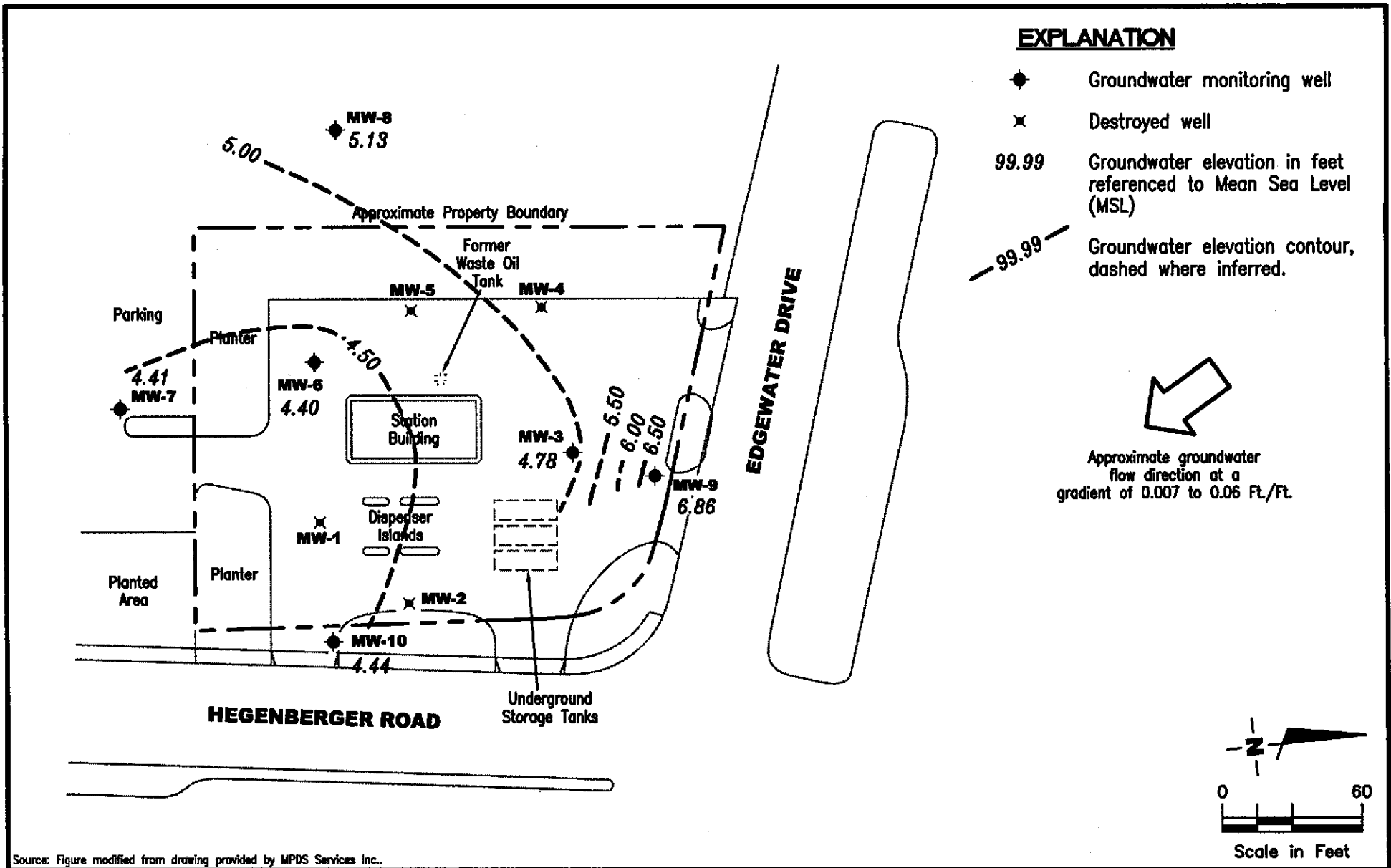


Figure 1: Potentiometric Map  
Figure 2: Concentration Map  
Table 1: Groundwater Monitoring Data and Analytical Results  
Table 2: Groundwater Analytical Results - Oxygenate Compounds  
Table 3: Product Thickness/Removal Data  
Attachments: Standard Operating Procedure - Groundwater Sampling  
Field Data Sheets  
Chain of Custody Document and Laboratory Analytical Reports

5043.qml



Source: Figure modified from drawing provided by MPDS Services Inc..



**Gettler - Ryan Inc.**

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Dublin, CA 94568 (925) 551-7555

**POTENTIOMETRIC MAP**  
Tosco (Unocal) Service Station #5043  
449 Hegenberger Road  
Oakland, California

FIGURE

1

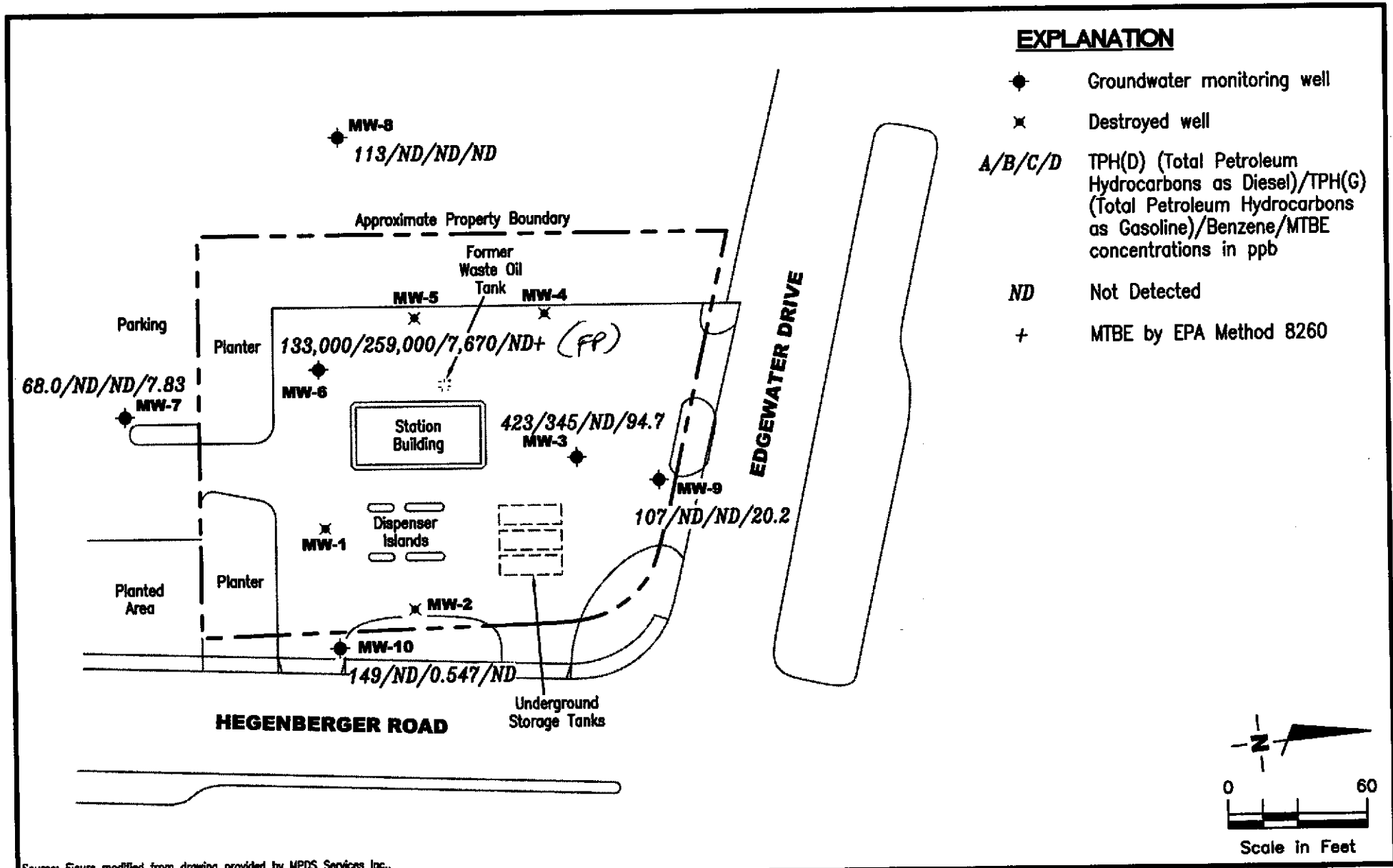
PROJECT NUMBER  
180065

REVIEWED BY

DATE  
July 14, 2000

REVISED DATE

FILE NAME: P:\ENVIRO\TOSCO\5043\Q00-5043.DWG | Layout Tab: Pot3



Source: Figure modified from drawing provided by MPDS Services Inc..



**Gettler - Ryan Inc.**

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Dublin, CA 94568 (925) 551-7555

**CONCENTRATION MAP**  
Tosco (Unocal) Service Station #5043  
449 Hegenberger Road  
Oakland, California

FIGURE

2

PROJECT NUMBER  
180065

REVIEWED BY

DATE  
July 14, 2000

REVISED DATE

FILE NAME: P:\ENVIRO\TOSCO\5043\000-5043.DWG | Layout Tab: Con3

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft. bgs.)	GWE (msl)	Product Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1	02/18/92	--	--	--	--	13,000	150,000	17,000	26,000	5,200	26,000	--
	05/20/92	--	--	--	--	--	--	--	--	--	--	--
	08/31/92	--	--	--	--	8,900 <sup>1</sup>	64,000	13,000	12,000	2,500	22,000	--
	11/30/92	--	--	--	--	--	--	--	--	--	--	--
	02/04/93	--	--	--	--	--	--	--	--	--	--	--
8.96*	05/04/93	2.13	--	5.73**	0.10	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	08/04/93	2.92	--	4.88**	0.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
7.38	11/03/93	3.04	--	4.74	<0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	02/07/94	2.55	--	4.85**	0.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	05/19/94	2.23	--	5.16**	0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	06/25/94	2.49	--	4.90**	0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	07/27/94	3.10	--	4.28	0.00	--	--	--	--	--	--	--
	08/15/94	2.85	--	4.61**	0.11	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	11/14/94	2.97	--	4.50**	0.12	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	02/21/95	1.53	--	5.87**	0.02	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	05/18/95	DESTROYED (3/95)		--	--	--	--	--	--	--	--	--
MW-2	02/18/92	--	--	--	--	4,300	29,000	1,000	5,300	260	7,900	--
	05/20/92	--	--	--	--	4,300 <sup>1</sup>	24,000	2,200	7,600	630	11,000	--
	08/31/92	--	--	--	--	1,600 <sup>1</sup>	9,000	1,800	640	140	2,000	--
	11/30/92	--	--	--	--	5,700 <sup>1</sup>	29,000	2,000	3,400	1,200	6,900	--
	02/04/93	--	--	--	--	6,100 <sup>1</sup>	18,000	1,600	3,000	ND	6,900	--
8.96*	05/04/93	2.48	--	6.48	0.00	7,100 <sup>1</sup>	63,000	3,200	17,000	470	17,000	--
	08/04/93	3.20	--	5.76	0.00	1,800 <sup>2</sup>	45,000	2,100	6,600	1,400	12,000	--
8.58	11/03/93	3.37	--	5.21	0.00	2,600 <sup>2</sup>	72,000	3,700	16,000	3,700	20,000	--
	02/07/94	2.40	--	6.18	<0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	05/19/94	2.13	--	6.45	0.00	3,000 <sup>2</sup>	42,000	2,500	1,300	2,300	13,000	--
	06/25/94	2.65	--	5.93	0.00	--	--	--	--	--	--	--
	07/27/94	3.44	--	5.14	0.00	--	--	--	--	--	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.L. (ft. bgs.)	GWE (msl)	Product		B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
					Thickness (ft.)	TPH(D) (ppb)						TPH(G) (ppb)
MW-2	08/15/94	3.25	--	5.33	0.00	2,800 <sup>2</sup>	35,000	2,400	850	1,700	15,000	--
(cont)	11/14/94	2.13		6.45	0.00	10,000 <sup>1</sup>	43,000	2,200	6,500	1,800	14,000	--
	02/21/95	1.65		6.93	0.00	2,000 <sup>2</sup>	44,000	2,200	3,200	1,300	1,500	--
	05/18/95	DESTROYED (3/95)		--	--	--	--	--	--	--	--	--
MW-3	02/18/92	--	2.5-14.0	--	--	ND	230	4.8	22	1.8	33	--
	05/20/92	INACCESSIBLE		--	--	--	--	--	--	--	--	--
	08/31/92	--		--	--	92 <sup>2</sup>	210 <sup>4</sup>	1	ND	ND	ND	--
	11/30/92	--		--	--	94	790 <sup>4</sup>	ND	ND	ND	ND	--
	02/04/93	--		--	--	550 <sup>2</sup>	3,300	320	ND	96	6.1	--
7.84*	05/04/93	4.32		3.52	0.00	250 <sup>2</sup>	1,800 <sup>3</sup>	95	ND	ND	ND	--
	08/04/93	4.94		2.90	0.00	100	210 <sup>4</sup>	ND	ND	ND	ND	--
7.42	11/03/93	4.53		2.89	0.00	160	640 <sup>4</sup>	ND	ND	ND	ND	--
	02/07/94	2.40		5.02	0.00	620 <sup>2</sup>	2,700	110	ND	17	ND	--
	05/19/94	3.60		3.82	0.00	480 <sup>2</sup>	1,800	83	ND	6.2	9.1	--
	06/25/94	4.58		2.84	0.00	--	--	--	--	--	--	--
	07/27/94	4.58		2.84	0.00	--	--	--	--	--	--	--
	08/15/94	4.65		2.77	0.00	110 <sup>2</sup>	130	1.1	0.54	ND	0.97	--
	11/14/94	3.18		4.24	0.00	150 <sup>2</sup>	1,600 <sup>4</sup>	ND	ND	ND	ND	--
	02/21/95	1.81		5.61	0.00	850 <sup>2</sup>	3,800	350	ND	130	22	--
	05/18/95	4.56		2.86	0.00	150 <sup>1</sup>	1,300 <sup>3</sup>	42	ND	ND	ND	--
	08/17/95	INACCESSIBLE		--	--	--	--	--	--	--	--	--
	07/26/96	INACCESSIBLE		--	--	--	--	--	--	--	--	--
	10/28/96 <sup>6</sup>	INACCESSIBLE		--	--	--	--	--	--	--	--	--
	01/29/97	INACCESSIBLE		--	--	--	--	--	--	--	--	--
	04/15/97	INACCESSIBLE		--	--	--	--	--	--	--	--	--
	05/27/97	3.45		4.59	0.00	--	670	6.5	ND	ND	ND	250
	06/01/97	3.50		4.54	0.00	610 <sup>2</sup>	--	--	--	--	--	--
8.04	07/15/97	3.71		4.33	0.00	240 <sup>2</sup>	240	ND	ND	ND	ND	490
	10/09/97	3.70		4.34	0.00	500 <sup>2</sup>	270	1.1	ND	2.4	1.4	910
	01/14/98	2.16		5.88	0.00	340 <sup>7</sup>	310	ND	ND	0.62	0.65	140

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449 Hegenberger Road  
Oakland, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.L. (ft. bgs.)	GWE (msl)	Product		B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
					Thickness (ft.)	TPH(D) (ppb)						TPH(G) (ppb)
MW-3 (cont)	04/01/98	2.20	2.5-14.0	5.84	0.00	320 <sup>7</sup>	370	5.7	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	93
	07/15/98	3.38		4.66	0.00	510 <sup>10</sup>	460 <sup>11</sup>	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	230
	10/16/98	2.30		5.74	0.00	67 <sup>13</sup>	330 <sup>14</sup>	4.7	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	60
	01/25/99	2.42		5.62	0.00	120 <sup>7</sup>	420 <sup>14</sup>	1.5	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	180
	04/15/99	2.16		5.88	0.00	170 <sup>17</sup>	290	0.54	ND	ND	ND	160
	07/14/99	2.35		5.69	0.00	420 <sup>19</sup>	290	3.2	ND	ND	ND	160
	10/21/99	2.49		5.55	0.00	350 <sup>7</sup>	360 <sup>23</sup>	0.77	ND	ND	ND	82
	01/20/00	2.38		5.66	0.00	2,060 <sup>1</sup>	ND	0.81	ND	ND	ND	54
	04/13/00	2.76		5.28	0.00	200 <sup>21</sup>	250 <sup>23</sup>	0.69	ND	ND	ND	91/150 <sup>26</sup>
	07/14/00	3.26		4.78	0.00	423 <sup>7</sup>	345 <sup>27</sup>	ND	ND	ND	ND	94.7
MW-4  9.00*  8.41	08/31/92	--	--	--	--	90 <sup>2</sup>	240 <sup>4</sup>	ND	ND	ND	0.54	--
	11/30/92	--	--	--	--	61	420 <sup>4</sup>	ND	ND	ND	ND	--
	02/04/93	--	--	--	--	ND	ND	ND	ND	ND	ND	--
	05/04/93	4.09	--	4.91	0.00	ND	110 <sup>3</sup>	0.95	ND	ND	ND	--
	08/04/93	5.01	--	3.99	0.00	81	250 <sup>4</sup>	ND	3.5	ND	4.1	--
	11/03/93	4.23	--	4.18	0.00	68	130 <sup>4</sup>	ND	ND	ND	ND	--
	02/07/94	3.35	--	5.06	0.00	ND	56 <sup>4</sup>	ND	ND	ND	ND	--
	05/19/94	3.92	--	4.49	0.00	90 <sup>2</sup>	140 <sup>4</sup>	ND	ND	ND	ND	--
	06/25/94	4.35	--	4.06	0.00	--	--	--	--	--	--	--
	07/27/94	4.28	--	4.13	0.00	--	--	--	--	--	--	--
	08/15/94	4.27	--	4.14	0.00	72 <sup>2</sup>	59 <sup>4</sup>	ND	0.6	ND	ND	--
	11/14/94	4.05	--	4.36	0.00	ND	130 <sup>4</sup>	ND	ND	ND	ND	--
	02/21/95	DESTROYED (1/95)	--	--	--	--	--	--	--	--	--	--
	MW-5  8.95	08/31/92	--	--	--	--	690 <sup>1</sup>	78	0.89	ND	ND	13
11/30/92 <sup>5</sup>		--	--	--	--	470 <sup>2</sup>	930	70	290	0.79	14	--
02/04/93 <sup>5</sup>		--	--	--	--	5,500 <sup>2</sup>	5,700	38	ND	620	170	--
05/04/93 <sup>5</sup>		4.37	--	4.90	0.00	4,600 <sup>1</sup>	7,400	41	ND	1,000	35	--
08/04/93 <sup>5</sup>		5.81	--	3.46	0.00	970 <sup>2</sup>	1,500	130	1	460	11	--
11/03/93		5.68	--	3.27	0.00	2,100 <sup>2</sup>	13,000	350	ND	3,500	530	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.L. (ft. bgs.)	GWE (msl)	Product							
					Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-5	02/07/94	5.11	--	3.84	0.00	830 <sup>2</sup>	2,000	87	ND	370	110	--
(cont)	05/19/94	5.09		3.86	0.00	600 <sup>2</sup>	260	44	ND	32	4.1	--
	06/25/94	4.55		4.40	0.00	--	--	--	--	--	--	--
	07/27/94	5.72		3.23	0.00	--	--	--	--	--	--	--
	08/15/94	5.68		3.27	0.00	860 <sup>2</sup>	1,600	110	ND	340	72	--
	11/14/94	5.63		3.32	0.00	290 <sup>1</sup>	250	40	ND	ND	5	--
	02/21/95	DESTROYED (1/95)		--	--	--	--	--	--	--	--	--
MW-6	08/31/92	--	2.5-13.5	--	--	750 <sup>2</sup>	ND	ND	ND	ND	ND	--
	11/30/92	--		--	--	1,400 <sup>1</sup>	9,200	550	ND	740	1,600	--
	02/04/93	--		--	--	890 <sup>2</sup>	3,600	340	ND	290	550	--
9.12*	05/04/93	3.72		5.40	0.00	1,800 <sup>1</sup>	4,900	360	18	450	430	--
	08/04/93	5.15		3.97	0.00	1,100 <sup>2</sup>	3,400	390	ND	440	190	--
8.87	11/03/93	5.25		3.62	0.00	390 <sup>2</sup>	1,400	320	ND	200	7.7	--
	02/07/94	4.55		4.32	0.00	970 <sup>2</sup>	4,900	650	ND	250	35	--
	05/19/94	4.62		4.25	0.00	1,400 <sup>2</sup>	3,600	300	1.7	210	41	--
	08/15/94	5.08		3.79	0.00	790 <sup>2</sup>	1,300	130	6.7	54	57	--
	11/14/94	5.30		3.57	0.00	800 <sup>2</sup>	730	50	ND	ND	39	--
	02/21/95	5.37		3.50	0.00	730 <sup>2</sup>	2,000	250	4.6	25	30	--
	05/18/95	INACCESSIBLE		--	--	--	--	--	--	--	--	--
	08/17/95	INACCESSIBLE		--	--	--	--	--	--	--	--	--
	07/26/96	6.40		5.03**	3.33	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	10/28/96	4.10		4.93**	0.21	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	11/13/96	4.02		5.04**	0.25	--	--	--	--	--	--	--
	11/25/96	4.01		5.44**	0.75	--	--	--	--	--	--	--
	12/04/96	3.65		5.61**	0.50	--	--	--	--	--	--	--
	12/19/96	4.80		5.76**	2.20	--	--	--	--	--	--	--
	01/08/97	4.84		5.38**	1.75	--	--	--	--	--	--	--
	01/14/97	4.51		5.25**	1.15	--	--	--	--	--	--	--
	01/27/97	4.00		6.22**	1.75	--	--	--	--	--	--	--
	01/29/97	3.24		5.87**	0.31	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--



**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.L. (ft. bgs.)	GWE (msl)	Product								
					Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
MW-6	02/11/97	4.65	2.5-13.5	5.14**	1.20	--	--	--	--	--	--	--	--
(cont)	02/24/97	4.81		4.91**	1.10	--	--	--	--	--	--	--	--
	03/10/97	4.60		5.00**	0.95	--	--	--	--	--	--	--	--
	03/17/97	4.50		5.06**	0.89	--	--	--	--	--	--	--	--
	03/31/97	4.65		4.99**	1.00	--	--	--	--	--	--	--	--
	04/15/97	4.90		4.76**	1.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	04/28/97	4.78		4.11**	0.03	--	--	--	--	--	--	--	--
	05/15/97	4.60		4.46**	0.25	--	--	--	--	--	--	--	--
	05/27/97	4.50		4.56**	0.25	--	--	--	--	--	--	--	--
	06/09/97	4.60		4.42**	0.20	--	--	--	--	--	--	--	--
	06/24/97	4.50		4.56**	0.25	--	--	--	--	--	--	--	--
	07/09/97	4.80		4.53**	0.60	--	--	--	--	--	--	--	--
	07/15/97	4.63		4.56**	0.42	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	07/21/97	4.75		4.31**	0.25	--	--	--	--	--	--	--	--
	08/06/97	4.50		4.45**	0.10	--	--	--	--	--	--	--	--
	08/20/97	4.55		4.40**	0.10	--	--	--	--	--	--	--	--
	09/02/97	4.75		4.16**	0.05	--	--	--	--	--	--	--	--
	10/09/97	4.84		4.06**	0.04	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	01/14/98	3.90		5.69**	0.94	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	02/12/98	3.35		6.01**	0.64	--	--	--	--	--	--	--	--
	03/03/98	4.51		4.38**	0.02	--	--	--	--	--	--	--	--
	04/01/98	3.67		6.43**	1.60	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	05/26/98	4.11		5.15**	0.50	--	--	--	--	--	--	--	--
	06/15/98	5.03		4.07**	0.30	--	--	--	--	--	--	--	--
	07/15/98	4.56		4.35**	0.05	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	08/21/98	4.77		4.12**	0.02	--	--	--	--	--	--	--	--
	09/30/98	5.08		3.81**	0.03	--	--	--	--	--	--	--	--
	10/16/98	4.31		6.41**	2.40	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	11/06/98	3.98		5.02**	0.17	--	--	--	--	--	--	--	--
	11/25/98	3.92		5.03**	0.10	--	--	--	--	--	--	--	--
	12/28/98	3.90		5.12**	0.20	--	--	--	--	--	--	--	--
	01/25/99	4.18		5.15**	0.60	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.L. (ft. bgs.)	GWE (msl)	Product		TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
					Thickness (ft.)								
MW-6	02/22/99	4.07	2.5-13.5	4.97**	0.22		--	--	--	--	--	--	--
(cont)	03/22/99	4.32		4.67**	0.15		--	--	--	--	--	--	--
	04/15/99	4.23		5.37**	0.95		NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	05/28/99	4.38		4.79**	0.39		--	--	--	--	--	--	--
	06/29/99	4.12		4.77**	0.02		--	--	--	--	--	--	--
	07/14/99	4.20		4.69**	0.03		NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	08/23/99	4.51		4.54**	0.24		--	--	--	--	--	--	--
	09/30/99	4.17		4.83**	0.17		--	--	--	--	--	--	--
	10/21/99	4.27		4.69**	0.12		NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
<i>DPE test</i>	* 11/29/99	4.18		4.69	<0.01		--	--	--	--	--	--	--
	12/20/99	4.26		4.62**	0.01		--	--	--	--	--	--	--
	01/20/00	4.31		4.56	<0.01		67,600 <sup>1</sup>	130,000 <sup>23</sup>	2,900	8,600	2,000	16,000	ND <sup>9</sup>
	02/26/00	3.98		4.89	0.00		--	--	--	--	--	--	--
	03/31/00	4.14		4.73	0.00		--	--	--	--	--	--	--
	04/13/00	4.04		4.83	0.00		8,700 <sup>7</sup>	140,000 <sup>23</sup>	5,000	14,000	3,600	27,000	7,700
	05/26/00	4.41		4.46	0.00		--	--	--	--	--	--	--
	06/17/00	4.35		4.52	0.00		--	--	--	--	--	--	--
	07/14/00	4.47		4.40	<0.01		133,000 <sup>7</sup>	259,000 <sup>23</sup>	7,670	13,700	6,860	40,700	<sup>9</sup> ND/ND <sup>9,26</sup>
MW-7	05/27/97	4.50	3.0-13.0	4.33	0.00		--	68	ND	ND	ND	ND	ND
8.83	06/01/97	4.54		4.29	0.00		69 <sup>2</sup>	--	--	--	--	--	--
	07/15/97	4.70		4.13	0.00		ND	ND	ND	ND	ND	ND	ND
	10/09/97	4.30		4.53	0.00		190 <sup>1</sup>	ND	ND	ND	ND	ND	ND
	01/14/98	2.88		5.95	0.00		65 <sup>7</sup>	ND	ND	ND	ND	ND	36
	04/01/98	3.13		5.70	0.00		ND	ND	ND	ND	ND	ND	ND
	07/15/98	4.45		4.38	0.00		74 <sup>12</sup>	ND	ND	ND	ND	ND	ND
	10/16/98	3.45		5.38	0.00		ND	ND	ND	ND	ND	ND	ND
	01/25/99	3.22		5.61	0.00		ND	ND	ND	ND	ND	ND	ND
	04/15/99	3.11		5.72	0.00		ND	ND	ND	ND	ND	ND	ND
	07/14/99	3.34		5.49	0.00		69 <sup>20</sup>	ND	ND	ND	ND	ND	ND

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #5043  
449 Hegenberger Road  
Oakland, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.L. (ft. bgs.)	GWE (msl)	Product								
					Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
MW-7 (cont)	10/21/99	3.43	3.0-13.0	5.40	0.00	ND	ND	ND	ND	ND	ND	ND	ND
	01/20/00	3.29		5.54	0.00	ND	ND	ND	ND	ND	ND	ND	4.2
	04/13/00	3.39		5.44	0.00	ND <sup>9</sup>	ND	ND	ND	ND	ND	ND	ND
	07/14/00	4.42		4.41	0.00	68.0 <sup>7</sup>	ND	ND	ND	ND	ND	ND	7.83
MW-8 8.52	05/27/97	3.42	3.0-15.0	5.10	0.00	--	310	0.88	0.67	15	70	ND	ND
	06/01/97	3.46		5.06	0.00	320 <sup>2</sup>	--	--	--	--	--	--	--
	07/15/97	3.49		5.03	0.00	ND	ND	ND	ND	2.7	3.8	ND	ND
	10/09/97	3.73		4.79	0.00	390 <sup>1</sup>	590	1.4	ND	32	4.1	ND	ND
	01/14/98	1.92		6.60	0.00	230 <sup>7</sup>	ND	ND	ND	ND	ND	ND	ND
	04/01/98	2.38		6.14	0.00	510 <sup>7</sup>	ND	ND	ND	ND	ND	ND	4.7
	07/15/98	3.53		4.99	0.00	140 <sup>12</sup>	ND	ND	ND	0.56	1.1	ND	ND
	10/16/98	3.04		5.48	0.00	170 <sup>15</sup>	ND	ND	ND	ND	ND	ND	ND
	01/25/99	2.92		5.60	0.00	ND <sup>9</sup>	ND	ND	ND	ND	ND	ND	ND
	04/15/99	2.40		6.12	0.00	91 <sup>12</sup>	ND	ND	ND	ND	ND	ND	ND
	07/14/99	3.03		5.49	0.00	120 <sup>21</sup>	ND	ND	ND	ND	ND	ND	ND
	10/21/99	3.11		5.41	0.00	110 <sup>24</sup>	ND	ND	ND	ND	ND	ND	ND
	01/20/00	3.06		5.46	0.00	583 <sup>1</sup>	ND	ND	ND	ND	ND	ND	ND
04/13/00	2.84	5.68	0.00	80 <sup>24</sup>	ND	ND	ND	ND	ND	ND	ND		
07/14/00	3.39	5.13	0.00	113 <sup>7</sup>	ND	ND	ND	ND	ND	ND	ND		
MW-9 8.29	02/21/95	1.98	3.0-13.0	6.31	0.00	71 <sup>2</sup>	70 <sup>4</sup>	ND	ND	ND	ND	--	--
	05/18/95	3.47		4.82	0.00	ND	52	ND	1.1	ND	1.9	--	--
	08/17/95	1.49		6.80	0.00	ND	ND	ND	ND	ND	ND	--	--
	07/26/96	0.28		8.01	0.00	98	ND	ND	ND	ND	ND	ND	ND
	10/28/96	1.15		7.14	0.00	99 <sup>1</sup>	ND	ND	ND	ND	ND	ND	7.6
	01/29/97	1.05		7.24	0.00	54	ND	ND	ND	ND	ND	ND	5.4
	04/15/97	1.88		6.41	0.00	94 <sup>1</sup>	ND	ND	ND	ND	ND	ND	5.4
	05/27/97	1.05		7.24	0.00	--	--	--	--	--	--	--	--
	07/15/97	1.90		6.39	0.00	ND	ND	ND	ND	ND	ND	ND	ND
10/09/97	1.76	6.53	0.00	160 <sup>1</sup>	ND	ND	ND	ND	ND	ND	ND		

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.L. (ft. bgs.)	GWE (msl)	Product								
					Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
MW-9	01/14/98	1.26	3.0-13.0	7.03	0.00	110 <sup>7</sup>	ND	ND	ND	ND	ND	ND	3.0
(cont)	04/01/98	0.85		7.44	0.00	110 <sup>7</sup>	ND	ND	ND	ND	ND	ND	ND
	07/15/98	1.52		6.77	0.00	200 <sup>12</sup>	ND	ND	ND	ND	ND	ND	ND
	10/16/98	0.81		7.48	0.00	ND	ND	ND	ND	ND	ND	ND	ND
	01/25/99	0.92		7.37	0.00	ND	ND	ND	ND	ND	ND	ND	ND
	04/15/99	0.90		7.39	0.00	ND	75 <sup>18</sup>	21	ND	ND	ND	1.1	680
	07/14/99	1.04		7.25	0.00	140 <sup>21</sup>	ND	1.9	ND	ND	ND	ND	260
	10/21/99	1.23		7.06	0.00	210 <sup>24</sup>	ND	ND	ND	ND	ND	ND	170
	01/20/00	1.18		7.11	0.00	519 <sup>1</sup>	ND	1.1	ND	ND	ND	ND	35
	04/13/00	1.08		7.21	0.00	81 <sup>25</sup>	160 <sup>23</sup>	0.64	ND	ND	ND	ND	53
	07/14/00	1.43		6.86	0.00	107 <sup>7</sup>	ND	ND	ND	ND	ND	ND	20.2
MW-10	02/21/95	4.69	3.0-13.0	3.93	0.00	270 <sup>2</sup>	1,500	250	26	9.1	160		--
8.62	05/18/95	4.92		3.70	0.00	75 <sup>1</sup>	810	520	ND	18	23		--
	08/17/95	4.05		4.57	0.00	ND	67	25	ND	2.4	ND		--
	07/26/96	4.08		4.54	0.00	ND	ND	3.7	ND	ND	ND		ND
	10/28/96	4.09		4.53	0.00	ND	ND	1.1	ND	ND	ND		ND
	01/29/97	2.94		5.68	0.00	ND	210	41	0.67	7.2	4.8		11
	04/15/97	4.07		4.55	0.00	ND	110	12	ND	0.77	ND		9.7
	05/27/97	4.40		4.22	0.00	--	--	--	--	--	--		--
	07/15/97	4.19		4.43	0.00	ND	ND	2.1	ND	0.67	0.73		ND
	10/09/97	4.75		3.87	0.00	ND	190	38	0.92	6.6	7.6		ND
	01/14/98	2.66		5.96	0.00	-- <sup>8</sup>	59	9.5	0.85	1.2	1.7		4.5
	04/01/98	3.45		5.17	0.00	62 <sup>7</sup>	230	66	1.7	12	17		6.4
	07/15/98	4.21		4.41	0.00	78 <sup>12</sup>	290	98	45	21	38		21
	10/16/98	4.11		4.51	0.00	ND	160 <sup>16</sup>	44	0.96	2.5	10		17
	01/25/99	3.26		5.36	0.00	ND	140	27	ND	2.8	6.8		23
	04/15/99	3.63		4.99	0.00	ND	120	18	ND	1.8	5.1		14

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.L. (ft. bgs.)	GWE (msl)	Product							
					Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-10	07/14/99	3.89	3.0-13.0	4.73	0.00	180 <sup>22</sup>	280	55	3.2	11	31	6.1
(cont)	10/21/99	4.09		4.53	0.00	96 <sup>7</sup>	140 <sup>23</sup>	22	0.59	1.7	7.7	5.3
	01/20/00	3.92		4.70	0.00	252 <sup>1</sup>	ND	0.73	0.86	ND	ND	5.2
	04/13/00	3.85		4.77	0.00	69 <sup>24</sup>	67 <sup>23</sup>	54	ND	2.6	ND	3.8
	07/14/00	4.18		4.44	0.00	149 <sup>7</sup>	ND	0.547	ND	ND	ND	ND
<b>Trip Blank</b>												
TB-LB	01/14/98	--		--	--	--	ND	ND	ND	ND	ND	ND
	04/01/98	--		--	--	--	ND	ND	ND	ND	ND	ND
	07/15/98	--		--	--	--	ND	ND	ND	ND	ND	ND
	10/16/98	--		--	--	--	ND	ND	ND	ND	ND	ND
	01/25/99	--		--	--	--	ND	ND	ND	ND	ND	ND
	04/15/99	--		--	--	--	ND	ND	ND	ND	ND	ND
	07/14/99	--		--	--	--	ND	ND	ND	ND	ND	ND
	10/21/99	--		--	--	--	ND	ND	ND	ND	ND	ND
	01/20/00	--		--	--	--	ND	ND	ND	ND	ND	ND
	04/13/00	--		--	--	--	ND	ND	ND	ND	ND	ND
	07/14/00	--		--	--	--	ND	ND	ND	ND	ND	ND

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

**EXPLANATIONS:**

Groundwater monitoring data and laboratory analytical results prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing	B = Benzene	ppb = Parts per billion
DTW = Depth to Water	T = Toluene	ND = Not Detected
(ft.) = Feet	E = Ethylbenzene	-- = Not Measured/Not Analyzed
S. I. = Screen Interval	X = Xylenes	TOG = Total Oil and Grease
(ft. bgs.) = Feet Below Ground Surface	MTBE = Methyl tertiary butyl ether	
GWE = Groundwater Elevation		
msl = mean sea level		
TPH(G) = Total Petroleum Hydrocarbons as Gasoline		

\* TOC elevations are relative to msl, per the City of Oakland Benchmark #3880 (Elevation = 20.37 feet msl).

\*\* Groundwater elevation corrected for the presence of free product [(TOC-DTW)+(Product Thickness x 0.77)].

♦ Elevations were based on the top of the well covers, and were surveyed relative to msl, per the City of Oakland Benchmark #3880 (Elevation = 20.37 feet).

<sup>1</sup> Laboratory report indicates the hydrocarbons detected did not appear to be diesel.

<sup>2</sup> Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.

<sup>3</sup> Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

<sup>4</sup> Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.

<sup>5</sup> TOG was ND.

<sup>6</sup> The well was obstructed with debris at 0.55 feet. A water sample was collected but was not analyzed as it was considered not representative of groundwater in this well.

<sup>7</sup> Laboratory report indicates unidentified hydrocarbons C9-C24

<sup>8</sup> Sample bottle broken at Laboratory.

<sup>9</sup> Detection limit raised. Refer to analytical reports.

<sup>10</sup> Laboratory report indicates unidentified hydrocarbons >C14 and <C12.

<sup>11</sup> Laboratory report indicates gasoline and unidentified hydrocarbons >C8.

<sup>12</sup> Laboratory report indicates unidentified hydrocarbons >C14.

<sup>13</sup> Laboratory report indicates non diesel mix >C14.

<sup>14</sup> Laboratory report indicates gasoline and unidentified hydrocarbons C6-C12.

<sup>15</sup> Laboratory report indicates non diesel mix C9-C27.

<sup>16</sup> Laboratory report indicates unidentified hydrocarbons <C7.

<sup>17</sup> Laboratory report indicates unidentified hydrocarbons >C10.

<sup>18</sup> Laboratory report indicates unidentified hydrocarbons C6-C12.

<sup>19</sup> Laboratory report indicates unidentified hydrocarbons >C9.

<sup>20</sup> Laboratory report indicates discrete peaks and unidentified hydrocarbons >C20.

<sup>21</sup> Laboratory report indicates discrete peaks and unidentified hydrocarbons >C16.

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #5043  
449 Hegenberger Road  
Oakland, California

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**EXPLANATIONS:**

- 22 Laboratory report indicates unidentified hydrocarbons <C14 and >C16.
- 23 Laboratory report indicates gasoline C6-C12.
- 24 Laboratory report indicates unidentified hydrocarbons >C16.
- 25 Laboratory report indicates discrete peaks.
- 26 MTBE by EPA Method 8260.
- 27 Laboratory report indicates weathered gasoline C6-C12.

**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-3	04/13/00	ND	ND	150	ND	ND	ND	ND	ND
MW-6	07/14/00	--	--	ND <sup>1</sup>	--	--	--	--	--

**EXPLANATIONS:**

TBA = Tertiary Butyl Alcohol  
 MTBE = Methyl Tertiary Butyl Ether  
 DIPE = Di-Isopropyl Ether  
 ETBE = Ethyl Tertiary Butyl Ether  
 TAME = Tertiary Amyl Methyl Ether  
 1,2-DCA = Dichloroethane  
 EDB = Ethylene dibromide  
 ppb = Parts per billion  
 ND = Not Detected  
 -- = Not Analyzed

**ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

<sup>1</sup> Detection limit raised. Refer to analytical reports.



**Table 3**  
**Product Thickness/Removal Data**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

WELL ID	DATE	DTW (ft.)	Product Thickness (ft.)	Amount Bailed (Product + Water) (gallons)
MW-6	07/26/96	6.40	3.33	2.10
	10/28/96	4.10	0.21	0.14
	11/13/96	4.02	0.25	0.09
	11/25/96	4.01	0.75	0.47
	12/04/96	3.65	0.50	0.43
	12/19/96	4.80	2.20	1.02
	01/08/97	4.84	1.75	0.59
	01/14/97	4.51	1.15	0.66
	01/27/97	4.00	1.75	0.78
	01/29/97	3.24	0.31	0.25
	02/11/97	4.65	1.20	0.62
	02/24/97	4.81	1.10	0.50
	03/10/97	4.60	0.95	0.47
	03/17/97	4.50	0.89	0.35
	03/31/97	4.65	1.00	0.50
	04/15/97	4.90	1.03	0.51
	04/28/97	4.78	0.03	0.20
	05/15/97	4.60	0.25	0.20
	05/27/97	4.50	0.25	0.00
	06/09/97	4.60	0.20	0.23
	06/24/97	4.50	0.25	0.25
	07/09/97	4.80	0.60	0.25
	07/15/97	4.63	0.42	0.20
	07/21/97	4.75	0.25	0.27
	08/06/97	4.50	0.10	0.16
	08/20/97	4.55	0.10	0.20
	09/02/97	4.75	0.05	0.12
	10/09/97	4.84	0.04	0.12
	01/14/98 <sup>1</sup>	3.90	0.94	1.50
	02/12/98 <sup>1</sup>	3.35	0.64	0.32
	03/03/98 <sup>1</sup>	4.51	0.02	2.00
	04/01/98 <sup>1</sup>	3.67	1.60	0.50
	05/26/98 <sup>1</sup>	4.11	0.50	0.08
	06/15/98 <sup>1</sup>	5.03	0.30	0.060
	07/15/98 <sup>1</sup>	4.56	0.05	0.10
	08/21/98 <sup>1</sup>	4.77	0.02	0.040
	09/30/98 <sup>1</sup>	5.08	0.03	0.027
	10/16/98 <sup>1</sup>	4.32	2.40	0.98
	11/06/98 <sup>1</sup>	3.98	0.17	0.16
	11/25/98 <sup>1</sup>	3.92	0.10	0.12
	12/28/98 <sup>1</sup>	3.90	0.20	0.14
	01/25/99 <sup>1</sup>	4.18	0.60	0.27
	02/22/99 <sup>1</sup>	4.07	0.22	0.078 product/3.0 water
	03/22/99 <sup>1</sup>	4.32	0.15	0.039 product/5.0 water
	04/15/99 <sup>1</sup>	4.23	0.95	1.0 product

**Table 3**  
**Product Thickness/Removal Data**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

<b>WELL ID</b>	<b>DATE</b>	<b>DTW (ft.)</b>	<b>Product Thickness (ft.)</b>	<b>Amount Bailed (Product + Water) (gallons)</b>
MW-6	05/28/99 <sup>1</sup>	4.38	0.39	0.141 product/1.0 water
(cont)	06/29/99 <sup>1</sup>	4.12	0.02	0.054 product/8.0 water
	07/14/99 <sup>1</sup>	4.20	0.03	0.039 product/2.0 water
	08/23/99 <sup>1</sup>	4.51	0.24	0.094 product/1.0 water
	09/30/99 <sup>1</sup>	4.17	0.17	0.141 product/1.0 water
	10/21/99 <sup>1</sup>	4.27	0.12	0.070 product/1.0 water
	11/29/99 <sup>2</sup>	4.18	<0.01	0.0078 product/1.0 water
	12/20/99 <sup>2</sup>	4.26	0.01	0.0156 product/1.0 water
	01/20/00 <sup>2</sup>	4.31	<0.01	0.00
	02/26/00	3.98	0.00	0.00
	03/31/00	4.14	0.00	0.00
	04/13/00	4.04	0.00	0.00
	05/26/00	4.41	0.00	0.00
	06/17/00	4.35	0.00	0.00
	07/14/00	4.47	<0.01	<1 ounce

**EXPLANATIONS:**

Product Thickness/Removal Data prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

DTW = Depth to Water

(ft.) = Feet

<sup>1</sup> Skimmer present in well.

<sup>2</sup> No skimmer found in well.

## STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

After water levels are collected and prior to sampling, temperature, pH and electrical conductivity are measured. If purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. The measurements are taken a minimum of three times during the purging. Purging continues until these parameters stabilize.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used when possible. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. For sampling sets greater than 20 samples, 5% trip blanks are included. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Tosco Marketing Company, the purge water and decontamination water generated during sampling activities is transported to Tosco - San Francisco Area Refinery, located in Rodeo, California.

**TOSCO (UNOCAL) SS#5043  
OAKLAND, CA**

**MONITORING  
EVENT OF MAY 26, 2000**

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Facility # 5043 Job#: 180065  
 Address: 449 Hegenberger Rd. Date: 5-26-00  
 City: Oakland Sampler: Soe

Well ID MW-6 Well Condition: O.K.  
 Well Diameter 2 in. Hydrocarbon Amount Bailed  
 Thickness: 0 in. (product/water): 0 (gal.)  
 Total Depth 12.75 ft.  
 Depth to Water 4.41 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.50	

\_\_\_\_\_ X VF \_\_\_\_\_ = \_\_\_\_\_ X 3 (case volume) = Estimated Purge Volume: \_\_\_\_\_ (gal.)

Purge Equipment: Disposable Bailer Bailer Stack Suction Grundfos Other: \_\_\_\_\_  
 Sampling Equipment: Disposable Bailer Bailer Pressure Bailer Grab Sample Other: \_\_\_\_\_

Starting Time: \_\_\_\_\_ Weather Conditions: \_\_\_\_\_  
 Sampling Time: \_\_\_\_\_ Water Color: \_\_\_\_\_ Odor: \_\_\_\_\_  
 Purging Flow Rate: \_\_\_\_\_ gpm Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu$ mhos/cm	Temperature $^{\circ}$ F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
	<u>3VCA</u>	<u>Y</u>	<u>HCL</u>	<u>Sequoia</u>	<u>TPH, BTEX, MTBE</u>

COMMENTS: Very strong odor coming from well.

**TOSCO (UNOCAL) SS#5043  
OAKLAND, CA**

**MONITORING  
EVENT OF JUNE 17, 2000**

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/  
Facility # 5043  
Address: 449 Hegenberger Rd.  
City: Oakland

Job#: 180065  
Date: 6-17-00  
Sampler: Joc

Well ID MW-6  
Well Diameter 2 in.  
Total Depth 12.75 ft.  
Depth to Water 4.35 ft.

Well Condition: O.K.  
Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)  

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.90	

\_\_\_\_\_ X VF \_\_\_\_\_ = \_\_\_\_\_ X 3 (case volume) = Estimated Purge Volume: \_\_\_\_\_ (gal.)

Purge Equipment: Disposable Bailer  
Bailer  
Stack  
Suction  
Grundfos  
Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer  
Bailer  
Pressure Bailer  
Grab Sample  
Other: \_\_\_\_\_

Starting Time: \_\_\_\_\_  
Sampling Time: \_\_\_\_\_  
Purging Flow Rate: \_\_\_\_\_ gpm.  
Did well de-water? \_\_\_\_\_

Weather Conditions: \_\_\_\_\_  
Water Color: \_\_\_\_\_ Odor: \_\_\_\_\_  
Sediment Description: \_\_\_\_\_  
If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu$ mhos/cm	Temperature $^{\circ}$ F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)

### LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
	<u>3VCA</u>	<u>Y</u>	<u>HCL</u>	<u>Sequoia</u>	<u>TPH, BTEX, MTBE</u>

COMMENTS: Strong odor in well

**TOSCO (UNOCAL) SS#5043  
OAKLAND, CA**

**MONITORING & SAMPLING  
EVENT OF JULY 14, 2000**



**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/  
Facility # 5043  
Address: 449 Heegenberger Rd.  
City: Oakland

Job#: 180065  
Date: 7-14-00  
Sampler: Joe

Well ID MW-3

Well Condition: O.K.

Well Diameter 2 in.

Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)

Total Depth 14.05 ft.

Depth to Water 3.26 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

10.79 x VF 0.17 = 1.83 x 3 (case volume) = Estimated Purge Volume: 5.5 (gal.)

Purge Equipment: Disposable Bailer  
Bailer  
Stack  
Suction  
Grundfos  
Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer  
Bailer  
Pressure Bailer  
Grab Sample  
Other: \_\_\_\_\_

Starting Time: 10:12  
Sampling Time: 10:35 AM  
Purging Flow Rate: 0.5 gpm  
Did well de-water? \_\_\_\_\_

Weather Conditions: clear  
Water Color: clear Odor: none  
Sediment Description: none  
If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{hos/cm} \times 10^6$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>10:20</u>	<u>1.5</u>	<u>7.26</u>	<u>2.97</u>	<u>66.2</u>	_____	_____	_____
<u>10:23</u>	<u>3</u>	<u>7.20</u>	<u>3.15</u>	<u>66.7</u>	_____	_____	_____
<u>10:26</u>	<u>5.5</u>	<u>7.14</u>	<u>3.02</u>	<u>66.5</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>3 Vol</u>	<u>Y</u>	<u>HCL</u>	<u>Sequoia</u>	<u>TPHG, BTEX, MTBE</u>
	<u>1 Amb</u>	<u>"</u>	<u>-</u>	<u>//</u>	<u>TPHID</u>

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Facility # 5043 Job#: 180065  
 Address: 449 Hegeberger Rd. Date: 7-14-00  
 City: Oakland Sampler: Joe

Well ID MW-6 Well Condition: O.K.  
 Well Diameter 2 in Hydrocarbon < 0.01 Amount Bailed < 1 ounce  
 Total Depth 12.75 ft. Thickness:  in. (product/water):  (gal.)  
 Depth to Water 4.47 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.90	

8.28 x VF 0.17 = 1.41 x 3 (case volume) = Estimated Purge Volume: 4.5 (gal.)

Purge Equipment: Disposable Bailer  
 Bailer  
 Stack  
 Suction  
 Grundfos  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer  
 Bailer  
 Pressure Bailer  
 Grab Sample  
 Other: \_\_\_\_\_

Starting Time: 10:55 Weather Conditions: clear  
 Sampling Time: 11:25 AM Water Color: clear Odor: yes (strange)  
 Purging Flow Rate: 0.5 gpm Sediment Description: none  
 Did well de-water? \_\_\_\_\_ If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^0$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>11:06</u>	<u>1.5</u>	<u>6.75</u>	<u>0.63</u>	<u>66.3</u>			
<u>11:10</u>	<u>3</u>	<u>6.80</u>	<u>0.67</u>	<u>67.0</u>			
<u>11:13</u>	<u>4.5</u>	<u>6.78</u>	<u>0.68</u>	<u>67.1</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-6</u>	<u>3 GAL</u>	<u>Y</u>	<u>HCL</u>	<u>Sequoia</u>	<u>TPHG, BTEX, MTBE by 8260</u>
	<u>1 Amb</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>TPHD</u>

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/  
Facility # 5043 Job#: 180065  
Address: 449 Hegebergers Rd. Date: 7-14-00  
City: Oakland Sampler: Joe

Well ID MW-7 Well Condition: O.K.  
Well Diameter 2 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)  
Total Depth 13.15 ft.  
Depth to Water 4.42 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

8.73 x VF 0.17 = 1.48 x 3 (case volume) = Estimated Purge Volume: 4.5 (gal.)

Purge Equipment: Disposable Bailer  
Bailer  
Stack  
Suction  
Grundfos  
Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer  
Bailer  
Pressure Bailer  
Grab Sample  
Other: \_\_\_\_\_

Starting Time: 7:08 Weather Conditions: clear  
Sampling Time: 7:35 A.M. Water Color: clear Odor: none  
Purging Flow Rate: 0.5 gpm Sediment Description: none  
Did well de-water? \_\_\_\_\_ If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal)	pH	Conductivity $\mu\text{mhos/cm} \times 10^3$	Temperature F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>7:15</u>	<u>1.5</u>	<u>7.83</u>	<u>10.37</u>	<u>66.2</u>	_____	_____	_____
<u>7:18</u>	<u>3</u>	<u>7.53</u>	<u>10.42</u>	<u>66.1</u>	_____	_____	_____
<u>7:22</u>	<u>4.5</u>	<u>7.41</u>	<u>10.50</u>	<u>66.4</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-7</u>	<u>3 GAL</u>	<u>Y</u>	<u>HCL</u>	<u>Sequoia</u>	<u>TPHG, BTEX, MTBE</u>
	<u>1 Amp.</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>TPHD</u>

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/  
Facility # 5043 Job#: 180065  
Address: 449 Hegenberger Rd. Date: 7-14-00  
City: Oakland Sampler: Joe

Well ID MW-8 Well Condition: O.K.  
Well Diameter 2 in. Hydrocarbon Amount Bailed  
Thickness: 0 in. (product/water): 0 (gal.)  
Total Depth 14.80 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66  
Depth to Water 3.39 ft. Factor (VF) 6" = 1.50 12" = 5.90

11.41 x VF 0.17 = 1.94 x 3 (case volume) = Estimated Purge Volume: 6 (gal.)

Purge Equipment: Disposable Bailer Bailer Stack Suction Grundfos Other: \_\_\_\_\_  
Sampling Equipment: Disposable Bailer Bailer Pressure Bailer Grab Sample Other: \_\_\_\_\_

Starting Time: 7:57 Weather Conditions: clear  
Sampling Time: 8:25 AM Water Color: clear Odor: none  
Purging Flow Rate: 0.5 gpm Sediment Description: none  
Did well de-water? \_\_\_\_\_ If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu$ mhos/cm <sup>x</sup>	Temperature F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>8:08</u>	<u>2</u>	<u>7.18</u>	<u>8.41</u>	<u>66.5</u>			
<u>8:12</u>	<u>4</u>	<u>7.36</u>	<u>8.57</u>	<u>66.8</u>			
<u>8:15</u>	<u>6</u>	<u>7.30</u>	<u>8.62</u>	<u>66.8</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-8</u>	<u>3 Vol</u>	<u>Y</u>	<u>HCL</u>	<u>Sequoia</u>	<u>TPH, BTEX, MTBE</u>
	<u>1 Amb.</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>TPH D</u>

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/  
Facility # 5043  
Address: 449 Hegenberger Rd.  
City: Oakland

Job#: 180065  
Date: 7-14-00  
Sampler: Joe

Well ID MW-9  
Well Diameter 2 in.  
Total Depth 11.95 ft.  
Depth to Water 1.43 ft.

Well Condition: O.K.

Hydrocarbon Thickness:	Amount Bailed (product/water):			
	2"	3"	4"	6"
Volume	2" = 0.17	3" = 0.38	4" = 0.66	
Factor (VF)		6" = 1.50	12" = 5.80	

10.52 X VF 0.17 = 1.79 X 3 (case volume) = Estimated Purge Volume: 5.5 gal

Purge Equipment: Disposable Bailer  
Bailer  
Stack  
Suction  
Grundfos  
Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer  
Bailer  
Pressure Bailer  
Grab Sample  
Other: \_\_\_\_\_

Starting Time: 9:22  
Sampling Time: 9:55 A.M.  
Purging Flow Rate: 0.5 gpm  
Did well de-water? \_\_\_\_\_

Weather Conditions: clear  
Water Color: clear Odor: none  
Sediment Description: none  
If yes: Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal

Time	Volume (gal)	pH	Conductivity $\mu$ mhos/cm <sup>25</sup>	Temperature F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>9:35</u>	<u>1.5</u>	<u>7.44</u>	<u>5.97</u>	<u>68.0</u>	_____	_____	_____
<u>9:38</u>	<u>3</u>	<u>7.42</u>	<u>6.22</u>	<u>67.2</u>	_____	_____	_____
<u>9:42</u>	<u>5.5</u>	<u>7.43</u>	<u>6.31</u>	<u>67.0</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-9</u>	<u>3VGA</u>	<u>Y</u>	<u>HCL</u>	<u>Sequoia</u>	<u>TPHG, BTEX, MTBE</u>
	<u>1 AmS</u>	<u>4</u>	<u>—</u>	<u>"</u>	<u>TPHP</u>

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/  
Facility # 5043

Job#: 180065

Address: 449 Heegenberger Rd.

Date: 7-14-00

City: Oakland

Sampler: Joe

Well ID MW-10

Well Condition: O.K.

Well Diameter 2 in.

Hydrocarbon  
Thickness: 0 in. Amount Bailed  
(product/water): 0 (gal)

Total Depth 12.80 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.90	

Depth to Water 4.18 ft.

8.62 x VF 0.17 = 1.47 x 3 (case volume) = Estimated Purge Volume: 4.5 (gal)

Purge Equipment:  Disposable Bailer  
 Bailer  
 Stack  
 Suction  
 Grundfos  
 Other: \_\_\_\_\_

Sampling Equipment:  Disposable Bailer  
 Bailer  
 Pressure Bailer  
 Grab Sample  
 Other: \_\_\_\_\_

Starting Time: 8:38

Weather Conditions: clear

Sampling Time: 8:58 A.M.

Water Color: clear Odor: none

Purging Flow Rate: 0.5 gpm

Sediment Description: none

Did well de-water? \_\_\_\_\_

If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal)

Time	Volume (gal)	pH	Conductivity $\mu$ mhos/cm <sup>x</sup>	Temperature $^{\circ}$ F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>8:43</u>	<u>1</u>	<u>7.97</u>	<u>8.12</u>	<u>65.9</u>			
<u>8:48</u>	<u>2.5</u>	<u>7.65</u>	<u>8.15</u>	<u>66.4</u>			
<u>8:49</u>	<u>4.5</u>	<u>7.55</u>	<u>8.18</u>	<u>66.3</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-10</u>	<u>3VGA</u>	<u>Y</u>	<u>HCL</u>	<u>Sequoia</u>	<u>TPHG, BTEX, MTBE</u>
	<u>1 AML</u>	<u>"</u>	<u>—</u>	<u>"</u>	<u>TPHD</u>

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





# Sequoia Analytical

1551 Industrial Road  
San Carlos, CA 94070-4111  
(650) 232-9600  
FAX (650) 232-9612  
[www.sequoialabs.com](http://www.sequoialabs.com)

July 28, 2000

Deanna Harding  
Gettler-Ryan/Geostrategies(1)  
6747 Sierra Court, Suite J  
Dublin, CA 94568

RE: Tosco(4)/L007108

Dear Deanna Harding

Enclosed are the results of analyses for sample(s) received by the laboratory on July 14, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wayne Stevenson  
Project Manager

CA ELAP Certificate Number I2360







Gettler-Ryan/Geostrategies(1)  
6747 Sierra Court, Suite J  
Dublin, CA 94568

Project: Tosco(4)  
Project Number: Unocal SS#5043  
Project Manager: Deanna Harding

Sampled: 7/14/00  
Received: 7/14/00  
Reported: 7/28/00

**ANALYTICAL REPORT FOR L007108**

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
TB-LB	L007108-01	Water	7/14/00
MW-3	L007108-02	Water	7/14/00
MW-6	L007108-03	Water	7/14/00
MW-7	L007108-04	Water	7/14/00
MW-8	L007108-05	Water	7/14/00
MW-9	L007108-06	Water	7/14/00
MW-10	L007108-07	Water	7/14/00





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin, CA 94568	Project: Tosco(4) Project Number: Unocal SS#5043 Project Manager: Deanna Harding	Sampled: 7/14/00 Received: 7/14/00 Reported: 7/28/00
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**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT  
Sequoia Analytical - San Carlos**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
				<b>L007108-01</b>			<b>Water</b>	
<b>TB-LB</b>								
Purgeable Hydrocarbons as Gasoline	0070115	7/27/00	7/27/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		95.0	%	
				<b>L007108-02</b>			<b>Water</b>	
<b>MW-3</b>								
Purgeable Hydrocarbons as Gasoline	0070115	7/27/00	7/27/00		50.0	345	ug/l	1
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	94.7	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		113	%	
				<b>L007108-03</b>			<b>Water</b>	
<b>MW-6</b>								
Purgeable Hydrocarbons as Gasoline	0070116	7/27/00	7/27/00		20000	259000	ug/l	2
Benzene	"	"	"		200	7670	"	
Toluene	"	"	"		200	13700	"	
Ethylbenzene	"	"	"		200	6860	"	
Xylenes (total)	"	"	"		200	40700	"	
Methyl tert-butyl ether	"	"	"		2000	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		111	%	
				<b>L007108-04</b>			<b>Water</b>	
<b>MW-7</b>								
Purgeable Hydrocarbons as Gasoline	0070116	7/27/00	7/27/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	7.83	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		89.7	%	
				<b>L007108-05</b>			<b>Water</b>	
<b>MW-8</b>								
Purgeable Hydrocarbons as Gasoline	0070116	7/27/00	7/27/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin, CA 94568	Project: Tosco(4)	Sampled: 7/14/00
	Project Number: Unocal SS#5043	Received: 7/14/00
	Project Manager: Deanna Harding	Reported: 7/28/00

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT  
Sequoia Analytical - San Carlos**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
				<u>L007108-05</u>			<u>Water</u>	
<b>MW-8 (continued)</b>							ug/l	
Methyl tert-butyl ether	0070116	7/27/00	7/27/00		5.00	ND		
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		116	%	
				<u>L007108-06</u>			<u>Water</u>	
<b>MW-9</b>							ug/l	
Purgeable Hydrocarbons as Gasoline	0070116	7/27/00	7/27/00		50.0	ND		
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	20.2	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		97.3	%	
				<u>L007108-07</u>			<u>Water</u>	
<b>MW-10</b>							ug/l	
Purgeable Hydrocarbons as Gasoline	0070115	7/27/00	7/27/00		50.0	ND		
Benzene	"	"	"		0.500	0.547	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		111	%	





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin, CA 94568	Project: Tosco(4) Project Number: Unocal SS#5043 Project Manager: Deanna Harding	Sampled: 7/14/00 Received: 7/14/00 Reported: 7/28/00
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**MTBE by EPA Method 8260A  
Sequoia Analytical - San Carlos**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<b>MW-6</b>				<b>L007108-03</b>			<b>Water</b>	<b>3</b>
Methyl tert-butyl ether	0070072	7/18/00	7/19/00		333	ND	ug/l	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	76.0-114		108	%	





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin, CA 94568	Project: Tosco(4) Project Number: Unocal SS#5043 Project Manager: Deanna Harding	Sampled: 7/14/00 Received: 7/14/00 Reported: 7/28/00
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**Diesel Hydrocarbons (C9-C24) by DHS LUFT  
Sequoia Analytical - Morgan Hill**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
								<u>Water</u>
<b>MW-3</b>				<u>L007108-02</u>				
Diesel Range Hydrocarbons	0G24017	7/24/00	7/25/00	DHS LUFT	50.0	423	ug/l	4
Surrogate: n-Pentacosane	"	"	"	50-150		120	%	
								<u>Water</u>
<b>MW-6</b>				<u>L007108-03</u>				
Diesel Range Hydrocarbons	0G24017	7/24/00	7/25/00	DHS LUFT	2000	133000	ug/l	4
Surrogate: n-Pentacosane	"	"	"	50-150		NR	%	5
								<u>Water</u>
<b>MW-7</b>				<u>L007108-04</u>				
Diesel Range Hydrocarbons	0G24017	7/24/00	7/25/00	DHS LUFT	50.0	68.0	ug/l	4
Surrogate: n-Pentacosane	"	"	"	50-150		118	%	
								<u>Water</u>
<b>MW-8</b>				<u>L007108-05</u>				
Diesel Range Hydrocarbons	0G24017	7/24/00	7/25/00	DHS LUFT	50.0	113	ug/l	4
Surrogate: n-Pentacosane	"	"	"	50-150		113	%	
								<u>Water</u>
<b>MW-9</b>				<u>L007108-06</u>				
Diesel Range Hydrocarbons	0G24017	7/24/00	7/25/00	DHS LUFT	50.0	107	ug/l	4
Surrogate: n-Pentacosane	"	"	"	50-150		115	%	
								<u>Water</u>
<b>MW-10</b>				<u>L007108-07</u>				
Diesel Range Hydrocarbons	0G24017	7/24/00	7/25/00	DHS LUFT	50.0	149	ug/l	4
Surrogate: n-Pentacosane	"	"	"	50-150		124	%	





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin, CA 94568	Project: Tosco(4) Project Number: Unocal SS#5043 Project Manager: Deanna Harding	Sampled: 7/14/00 Received: 7/14/00 Reported: 7/28/00
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**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control**  
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
<b>Batch: 0070115</b>			<b>Date Prepared: 7/27/00</b>			<b>Extraction Method: EPA 5030B [P/T]</b>				
<b>Blank</b>			<b>0070115-BLK1</b>							
Purgeable Hydrocarbons as Gasoline	7/27/00			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	5.00				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.72	"	70.0-130	97.2			
<b>LCS</b>			<b>0070115-BS1</b>							
Benzene	7/27/00	10.0		9.92	ug/l	70.0-130	99.2			
Toluene	"	10.0		9.16	"	70.0-130	91.6			
Ethylbenzene	"	10.0		9.21	"	70.0-130	92.1			
Xylenes (total)	"	30.0		28.2	"	70.0-130	94.0			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		11.2	"	70.0-130	112			
<b>LCS</b>			<b>0070115-BS2</b>							
Purgeable Hydrocarbons as Gasoline	7/27/00	250		245	ug/l	70.0-130	98.0			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.0	"	70.0-130	100			
<b>Matrix Spike</b>			<b>0070115-MS1 L007108-07</b>							
Purgeable Hydrocarbons as Gasoline	7/28/00	250	ND	244	ug/l	60.0-140	97.6			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.1	"	70.0-130	101			
<b>Matrix Spike Dup</b>			<b>0070115-MSD1 L007108-07</b>							
Purgeable Hydrocarbons as Gasoline	7/28/00	250	ND	252	ug/l	60.0-140	101	25.0	3.42	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		11.3	"	70.0-130	113			
<b>Batch: 0070116</b>			<b>Date Prepared: 7/27/00</b>			<b>Extraction Method: EPA 5030B [P/T]</b>				
<b>Blank</b>			<b>0070116-BLK1</b>							
Purgeable Hydrocarbons as Gasoline	7/27/00			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	5.00				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		11.5	"	70.0-130	115			
<b>LCS</b>			<b>0070116-BS1</b>							
Benzene	7/27/00	10.0		9.14	ug/l	70.0-130	91.4			
Toluene	"	10.0		8.70	"	70.0-130	87.0			

\*Refer to end of report for text of notes and definitions.





Jettler-Ryan/Geostrategies(1) 5747 Sierra Court, Suite J Dublin, CA 94568	Project: Tosco(4)	Sampled: 7/14/00
	Project Number: Unocal SS#5043	Received: 7/14/00
	Project Manager: Deanna Harding	Reported: 7/28/00

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LIFT/Quality Control**  
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
<b>LCS (continued)</b>	<b>0070116-BS1</b>									
Ethylbenzene	7/27/00	10.0		8.40	ug/l	70.0-130	84.0			
Xylenes (total)	"	30.0		25.5	"	70.0-130	85.0			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.7	"	70.0-130	107			
<b>LCS</b>	<b>0070116-BS2</b>									
Purgeable Hydrocarbons as Gasoline	7/27/00	250		217	ug/l	70.0-130	86.8			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		11.1	"	70.0-130	111			
<b>Matrix Spike</b>	<b>0070116-MS1</b>		<b>L007108-05</b>							
Purgeable Hydrocarbons as Gasoline	7/27/00	250	ND	238	ug/l	60.0-140	95.2			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		13.3	"	70.0-130	133			6
<b>Matrix Spike Dup</b>	<b>0070116-MSD1</b>		<b>L007108-05</b>							
Purgeable Hydrocarbons as Gasoline	7/27/00	250	ND	231	ug/l	60.0-140	92.4	25.0	2.99	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		11.9	"	70.0-130	119			

\*Refer to end of report for text of notes and definitions.





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin, CA 94568	Project: Tosco(4) Project Number: Unocal SS#5043 Project Manager: Deanna Harding	Sampled: 7/14/00 Received: 7/14/00 Reported: 7/28/00
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**MTBE by EPA Method 8260A/Quality Control  
Sequoia Analytical - San Carlos**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
<b>Batch: 0070072</b>			<b>Date Prepared: 7/18/00</b>			<b>Extraction Method: EPA 5030B [P/T]</b>				
<b>Blank</b>			<b>0070072-BLK1</b>							
Methyl tert-butyl ether	7/18/00			ND	ug/l	2.00				
Surrogate: 1,2-Dichloroethane-d4	"	50.0		49.6	"	76.0-114	99.2			
<b>LCS</b>			<b>0070072-BS1</b>							
Methyl tert-butyl ether	7/18/00	50.0		45.7	ug/l	70.0-130	91.4			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		49.1	"	76.0-114	98.2			
<b>Matrix Spike</b>			<b>0070072-MS1 L007103-05</b>							
Methyl tert-butyl ether	7/18/00	50.0	ND	47.5	ug/l	60.0-140	95.0			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		51.1	"	76.0-114	102			
<b>Matrix Spike Dup</b>			<b>0070072-MSD1 L007103-05</b>							
Methyl tert-butyl ether	7/18/00	50.0	ND	47.8	ug/l	60.0-140	95.6	25.0	0.630	
Surrogate: 1,2-Dichloroethane-d4	"	50.0		48.9	"	76.0-114	97.8			







# Sequoia Analytical

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Jettler-Ryan/Geostrategies(1) 5747 Sierra Court, Suite J Dublin, CA 94568	Project: Tosco(4) Project Number: Unocal SS#5043 Project Manager: Deanna Harding	Sampled: 7/14/00 Received: 7/14/00 Reported: 7/28/00
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**Diesel Hydrocarbons (C9-C24) by DHS LUET/Quality Control**  
Sequoia Analytical - Morgan Hill

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
<b>Batch: 0G24017</b>						<b>Extraction Method: EPA 3510B</b>				
<b>Blank</b>	<b>Date Prepared: 7/24/00</b>									
	<b>0G24017-BLK1</b>									
Diesel Range Hydrocarbons	7/25/00			ND	mg/l	0.0500				
Surrogate: n-Pentacosane	"	0.100		0.0917	"	50-150	91.7			
<b>LCS</b>	<b>0G24017-BS1</b>									
Diesel Range Hydrocarbons	7/25/00	1.00		0.903	mg/l	60-140	90.3			
Surrogate: n-Pentacosane	"	0.100		0.113	"	50-150	113			
<b>Matrix Spike</b>	<b>0G24017-MS1</b>		<b>MJG0421-01</b>							
Diesel Range Hydrocarbons	7/25/00	1.00	0.138	1.09	mg/l	50-150	95.2			
Surrogate: n-Pentacosane	"	0.100		0.122	"	50-150	122			
<b>Matrix Spike Dup</b>	<b>0G24017-MSD1</b>		<b>MJG0421-01</b>							
Diesel Range Hydrocarbons	7/25/00	1.00	0.138	1.11	mg/l	50-150	97.2	50	1.82	
Surrogate: n-Pentacosane	"	0.100		0.109	"	50-150	109			

\*Refer to end of report for text of notes and definitions.





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin, CA 94568	Project: Tosco(4) Project Number: Unocal SS#5043 Project Manager: Deanna Harding	Sampled: 7/14/00 Received: 7/14/00 Reported: 7/28/00
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**Notes and Definitions**

#	Note
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- 1 Chromatogram Pattern: Weathered Gasoline C6-C12
- 2 Chromatogram Pattern: Gasoline C6-C12
- 3 This sample was diluted due to high non-target compounds.
- 4 Chromatogram Pattern: Unidentified Hydrocarbons C9-C24
- 5 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
- 6 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- Recov. Recovery
- RPD Relative Percent Difference

